

AMENDMENTS TO THE SPECIFICATION

Before paragraph [0001] please insert:

CROSS-REFERENCE TO RELATED APPLICATIONS

Before paragraph [0002] please insert:

BACKGROUND OF THE INVENTION

1. Field of the Invention

Please replace paragraph [0003] with the following amended paragraph:

[0003] The present invention is ~~It generally concerns means adapted to control~~ directed to controlling the flow of tears running from the surface of the eye towards the nasal cavity.

Before paragraph [0004] please insert:

2. Discussion of Background Information

Please replace paragraph [0004] with the following amended paragraph:

[0004] The normal functioning of the human eye-eyeball requires that its outer surface be constantly covered with a lubricating film constituted by tears, that ensure both rinsing and protection due to the natural anti-infectious antibiotics that they contain. They are produced by a series of glands located in the eyelids and about the periphery of the eye.

Please replace paragraph [0010] with the following amended paragraph:

[0010] This method has the drawback of being irreversible, barring a new surgical intervention. To overcome this, removable devices capable of being positioned in a lachrymal duct and removed without surgical intervention have been proposed. For instance, the U.S. Patent No. 5,334,137, filed by the company "EAGLE VISION," describes a device for controlling the lachrymal fluid that blocks the flow of this fluid originating from the surface of the eye, and comprising an inverted truncated cone-shaped end portion and a head provided with a widened dome. The end portion is arranged to facilitate the positioning of the device through a point opening, and the widened dome prevents the complete penetration of the device into the vertical portion of the canaliculus through the point opening.

Please replace paragraph [0012] with the following amended paragraph:

[0012] International The Publication No. WO 98/33461, filed by Mr. Alain Fouéré, co-Applicant of the present application, describes a screwable meatus plug adapted to be implanted in the lachrymal points, and constituted of a substantially cylindrical body whose lateral surface comprises a helical threading, similar to that of a screw allowing to position it or remove it by screwing or unscrewing, the meatus plug comprising, or not, an axial through duct allowing the passage of a predetermined flow of lachrymal fluid.

Before paragraph [0015] please insert:

SUMMARY OF THE INVENTION

Please replace paragraph [0015] with the following amended paragraph:

[0015] One aspect ~~The object~~ of the device according to the present invention, which is essentially adapted to allow the blockage of the lachrymal ducts, is to overcome these circumstances in order to fight ~~allow fighting~~ against the disease, often called "dry eyes," by overcoming a deficiency of the lachrymal glands through the decrease or suppression of the flow of tears towards the nasal cavities.

Please replace paragraph [0017] with the following amended paragraph:

[0017] The present invention includes ~~It is constituted of~~ a lachrymal plug adapted to be inserted in the lachrymal canaliculi [[:]]. This ~~this~~ plug, possibly provided with an axial duct, comprises on its outer walls flexible elements that can be folded on the said walls to allow for the insertion of the plug in the lachrymal duct, and the flexible elements are capable of being straightened once the lachrymal plug is set so as to maintain the latter in position.

Please insert after paragraph [0017] the following two paragraphs:

[0017.1] One aspect of the present invention includes a lachrymal plug adapted essentially to allow the blockage of the lachrymal ducts to overcome a deficiency of the lachrymal glands by decreasing or suppressing the flow of tears toward the nasal cavities. This lachrymal plug is characterized in that it is constituted of a substantially cylindrical body, on the external lateral walls of which are implanted flexible elements, that can be applied against these walls to allow the insertion of the lachrymal plug in the lachrymal duct, and can straighten when they are released so as to maintain said lachrymal plug in position.

Moreover, the flexible elements can be radial pins and the pins can be tilted in the direction of the nasal cavities, so that they cannot be displaced by the natural peristalsis of the lachrymal duct driving tears and foreign bodies inwardly. The pins can be of a constant length, the pins can be of a variable length, or the pins can be of an increasing or decreasing length. The pins can be arranged in helical formation around the body. Additionally, the lachrymal plug can include one or several elements, such as flexible disks, arranged to ensure its impermeability. Furthermore, the flexible elements can have sufficient elasticity to partially penetrate into the inner wall of the lachrymal canaliculus by straightening, so as to ensure that the lachrymal plug is firmly held in position. The lachrymal plug can further be provided with an axial duct allowing for a reduced passage of the tears. Moreover, the lachrymal plug can take the form of a cone, a double cone, or a diabolo. Additionally, the lachrymal plug can be made of metal. In particular, the lachrymal plug can be made of a shape memory metal. Furthermore, the lachrymal plug can include a radio-opaque reference, visible with X-rays, to facilitate the marking during its progression when it is positioned.

[0017.2] Another aspect of the present invention includes a method for positioning a lachrymal plug where the positioning is carried out through the use of a tube having a push rod, arranged to allow pressing the pins against the outer wall of the element and to release them once the prosthesis is in position. This method for positioning a lachrymal can further include positioning with an instrument provided with jaws, similar to those of a mechanical pencil. Moreover,

the instrument can be arranged to also allow undertaking the removal of the prosthesis.

Before paragraph [0018] please insert:

BRIEF DESCRIPTION OF THE DRAWINGS

Please replace paragraph [0018] with the following amended paragraph:

[0018] On the attached drawings, given by way of non-limiting examples of embodiments according to the present application:

[[-]] Figure 1 [[, already cited,]] schematically shows an eye with the lachrymal ducts and the lachrymal sac_ [[,]];

[[-]] Figures 2 and 3 show a lachrymal plug according to the present invention seen from the side and end, respectively_ [[,]];

[[-]] Figure 4 shows an alternative of the lachrymal plug of Figures 2 and 3 provided with pins having an increasing length_ [[,]];

[[-]] Figure 5 is an axial cross-sectional view showing the positioning of a lachrymal plug with ~~by means of~~ a tube having a push rod_ [[,]];

[[-]] Figure 6 shows, in the same conditions, the lachrymal plug once in position_ [[,]];

[[-]] Figure 7 shows an alternative of the lachrymal plug of Figure 6, provided with pins having an increasing length_ [[,]];

[[-]] Figure 8 shows a lachrymal plug according to Figure 6 implanted in the lachrymal ducts [[,]]; and

[[-]] Figures 9 and 10 are axial cross-sectional views of two examples of possible forms of the device ~~that is the object of the~~ present invention.

Before paragraph [0019] please insert:

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0019] The device of the present invention shown in ~~[[,]]~~ Figures 2-10, includes ~~is constituted of~~ a substantially cylindrical body 10, on the outer lateral walls of which are implanted flexible elements ~~constituted of~~ such as radial pins 11 that can be applied or collapsed against the ~~these~~ walls and straightened when ~~they are~~ released.

Please replace paragraph [0020] with the following amended paragraph:

[0020] These flexible elements are ~~predetermined to have~~ a sufficient ~~predetermined~~ elasticity to partially penetrate into the inner wall 12 of the canaliculus 4, 5, by straightening up, so as to ensure that the lachrymal plug is firmly held in position as shown in Figure 5 ~~(Figure 5)~~.

Please replace paragraph [0021] with the following amended paragraph:

[0021] The pins 11 can be arranged in helical formation or any other configuration. Their length can be constant, increasing as shown in Figures 4 and 7 ~~(Figures 4 and 7)~~, decreasing or variable. They are advantageously tilted in the direction of the nasal cavities 7, so that they cannot be displaced by the natural peristalsis of the lachrymal duct which drives tears and foreign bodies inwardly.

Please replace paragraph [0022] with the following amended paragraph:

[0022] The exact shape ~~conformation~~ of the body 10 can vary. For instance, it can have the form of a cone as shown in figure 9 ~~(Figure 9)~~, a double cone as shown in Figure 10 ~~(Figure 10)~~, or even a diabolo (not shown).

Please replace paragraph [0023] with the following amended paragraph:

[0023] The body 10 can include ~~is possibly provided with~~ an axial duct 13 allowing a reduced passage of the tears as shown in Figure 10 (~~Figure 10~~).

Please replace paragraph [0024] with the following amended paragraph:

[0024] Furthermore, the The device described can advantageously further ~~comprise~~ include at least one element, such as a flexible disk, arranged to ensure its impermeability.

Please replace paragraph [0025] with the following amended paragraph:

[0025] The lachrymal plug can be made of any material allowing the pins 11, or other flexible elements, to be folded and straightened. [[,]] For example, the material can include ~~whether it is~~ metal or a synthetic material. In particular, it can be manufactured of a shape memory metal, offering the possibility of installing the lachrymal plug ~~it~~ without an instrument.

Please replace paragraph [0026] with the following amended paragraph:

[0026] The lachrymal plug ~~It~~ can also possibly comprise a radio-opaque reference, visible with X-rays, to facilitate the marking during the progression of the lachrymal plug when it is positioned.

Please replace paragraph [0027] with the following amended paragraph:

[0027] The ~~This~~ positioning of the lachrymal plug can ~~will~~ be carried out by any known appropriate device that allows pressing ~~means allowing to press~~ the pins 11 against the outer wall of the body 10 of the lachrymal plug, and to release the pins ~~them~~ once the lachrymal plug prosthesis is positioned.

Please replace paragraph [0028] with the following amended paragraph:

[0028] In particular, this ~~means~~ device can include ~~consist of~~ a tube 15 having a push rod 16 as shown in figure 5 (~~Figure 5~~), or of an instrument provided with jaws, similar to those of a mechanical pencil. Such an instrument would further be completely used ~~adapted~~ for undertaking the removal of the prosthesis.

Please replace paragraph [0029] with the following amended paragraph:

[0029] The positioning of the various ~~constitutive~~ elements gives ~~the object of~~ the present invention a maximum of useful effects that, until now, had not been obtained by similar devices.